

CLAIMS

What is claimed is:

1. A method for purging a fuel processing system comprising a steam reformer, the reformer having a catalyst comprising nickel, the method comprising:
supplying a purge gas to the steam reformer, the purge gas comprising an inert gas and hydrogen.
2. The method of claim 1 wherein the inert gas comprises nitrogen and steam.
3. The method of claim 1 wherein the inert gas comprises nitrogen.
4. The method of claim 1 wherein the inert gas comprises steam.
5. The method of claim 4, further comprising maintaining the catalyst at a temperature above the condensation temperature of the purge gas.
6. The method of claim 4, further comprising reducing the pressure in the reformer.
7. The method of claim 6 wherein the pressure in the reformer is reduced to about 25 kPa.
8. The method of claim 6 wherein the pressure in the reformer is reduced to about 10 kPa.
9. The method of claim 1 wherein the purge gas comprises greater than 0.25% hydrogen by volume.

10. The method of claim 1 wherein the purge gas comprises at most about 2% hydrogen by volume.

11. The method of claim 1 wherein the purge gas comprises at least about 0.5% hydrogen by volume.

12. The method of claim 1 wherein the purge gas comprises about 0.5% to about 1% hydrogen by volume.

13. A fuel processing system comprising:

- (a) a steam reformer having a catalyst comprising nickel;
- (b) means for supplying a purge gas at least to the reformer; and
- (c) a hydrogen supply for supplying hydrogen to the purge gas.

14. The fuel processing system of claim 13 wherein the purge gas comprises steam and the means for supplying a purge gas comprises a vaporizer.

15. The fuel processing system of claim 13 wherein the means for supplying a purge gas comprises a nitrogen tank.

16. The fuel processing system of claim 13, further comprising heating means for maintaining the catalyst at a temperature above the condensation temperature of the purge gas.

17. The fuel processing system of claim 13, further comprising a vacuum pump fluidly connected to the reformer for reducing the pressure therein.